

NASA TECH BRIEF



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Materials Data Handbooks Prepared for Aluminum Alloys 2014, 2219, and 5456, and Stainless Steel Alloy 301

For the convenience of design and engineering personnel a series of materials data handbooks have been prepared that summarize all the presently known properties of commercially available structural aluminum alloys 2014, 2219, and 5456 and structural stainless steel alloy 301.

The scope of the information includes physical and mechanical property data at cryogenic, ambient, and elevated temperatures; material procurement; metallurgy of the alloy; corrosion; environmental effects; fabrication and joining techniques. Design data are presented, where available, and these data are supplemented with information on the typical behavior of the alloy.

Each of the materials data handbooks is divided into 12 chapters:

1. General Information
2. Procurement Information
3. Metallurgy
4. Production Practices
5. Manufacturing Practices
6. Space Environment Effects
7. Static Mechanical Properties
8. Dynamic and Time Dependent Properties
9. Physical Properties
10. Corrosion Resistance and Protection
11. Surface Treatments
12. Joining Techniques

Information on the alloy is given in the form of tables and illustrations, and with descriptive text where deemed useful. Source references for the information presented are listed at the end of each chapter.

Notes:

1. These handbooks were prepared by Syracuse University Research Institute, Department of Chemical Engineering and Metallurgy.
2. Copies of these handbooks are available from (specify type of alloy and number in your request):

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
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Patent status:

No patent action is contemplated by NASA.

Source: Syracuse University Research Institute
under contract to
Marshall Space Flight Center
(M-FS-1959, 1960, 1961, 1962)

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